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APHIS 91-12
July 1973

NATIONAL TICK SURVEILLANCE PROGRAM

Calendar Year 1972

PROCUREMENT SECTION
CURRENT SERIAL RECORDS
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Animal and Plant Health Inspection Service
UNITED STATES DEPARTMENT OF AGRICULTURE

Prepared by
Veterinary Services
Animal and Plant Health Inspection Service
UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Md. 20782

NATIONAL TICK SURVEILLANCE PROGRAM CALENDAR YEAR 1972

During calendar year 1972 the collection and submission of ticks from native and imported animals were 14 percent less than for 1971. There were 3,645 species collections in 1972, compared with 4,247 in 1971.

THE ALICE, TEXAS *BOOPHILUS* OUTBREAK

On August 22, 1972, cattle fever ticks (*Boophilus* sp.) were found on cattle in a livestock market at Alice, Tex. As a result of this disclosure, by the end of 1972 a total of 64 infestations were detected, 63 in Texas and one in Imperial County, Calif. The infestations in Texas involved a county 400 miles northwest of Alice, another 300 miles northeast, and another county 100 miles west of Alice. Parts of six counties in the Alice area have been placed under both State and Federal quarantine. A total of 85 State and Federal inspectors has been assigned to the Cattle Fever Tick Eradication Task Force, Alice, Tex. The duties of the personnel involved in this program include: (1) inspection to determine location of infested premises, (2) carrying out inspection for movement, and (3) tracing movements from infested and exposed premises.

The *Boophilus* outbreak in the Alice, Tex., area is the most serious "break" in the protective quarantine zone in more than 30 years. State and Federal regulatory personnel are continuing a very active program in 1973 to contain and eradicate all infestations connected with the Alice tick outbreak.

In addition to unexpected tick outbreaks such as the one at Alice, each year a number of tick infestations are expected to be found in the quarantine zone separating Texas from Mexico. The United States maintains a permanent quarantine zone or barrier along the Rio Grande River to protect the cattle fever tick free area of Texas from the tick infested area of Mexico. For example, during the last half of calendar year 1972, 33 infestations of *Boophilus* ticks were found in eight counties along the Rio Grande River. This activity is comparable to the same period of time in the preceding year.

GULF COAST TICK IN OKLAHOMA

An unusually heavy outbreak of Gulf Coast ticks *(Amblyomma maculatum)* was reported from Oklahoma during the spring and summer of 1972. Entomologists from Oklahoma State University found the ticks on livestock in at least 15 counties in the State.

The Gulf Coast tick is a common parasite of livestock along the Gulf Coast but has seldom been a problem at distances greater than 100 miles inland. However, when infestations were detected in Mayes County, Okla., in 1963 an effort was made to determine if the tick had become established. Collections of *A. maculatum* were made by Veterinary Services personnel from the same farm in Mayes County in 1963, 1967, 1968, and 1971. By 1968 it was apparent that this tick was established in Wagoner, Rogers, Craig, and Mayes Counties.

CHANGES IN THE DISTRIBUTION OF TICKS

The establishment of *A. maculatum* in northeastern Oklahoma is another instance in which a species of tick thought to be confined to a limited geographical area was able to make adaptations for survival and propagation in a geographical area quite different from where it originated. A second example is the brown dog tick (*Rhipicephalus sanguineus*) which was originally a tropical species but is now commonly found in the northern States. Although the brown dog tick is unable to survive the winter outdoors in the northern States, it has adapted very well to survival in centrally heated houses and kennels. It can become a serious pest of dogs and cause real concern to the owner. The spinose ear tick (*Otobius megnini*) is a third species which has extended its geographical distribution. Originally a native of the southwestern United States and Mexico, it is now established in South America, Africa, India and Madagascar. It was carried to these distant areas in the ears of the livestock hosts. Until recently, the spinose ear tick was thought to be established in the United States only in the dry, arid, southwestern States. Records now confirm that the tick is a problem in several northwestern States as well as British Columbia. It is also known to be established in at least one county in eastern Tennessee.

THE VIRGIN ISLANDS TICK ERADICATION PROGRAM

The livestock owners of St. Croix, U.S. Virgin Islands, have maintained an interest in a *Boophilus microplus* eradication program since the early 1960's. Studies were begun in 1962 to determine the role the white-tailed deer (*Odocoileus virginianus*) plays as a potential host for *B. microplus.* These efforts were expanded from 1964 to 1967 with studies by the Southeastern Cooperative Wildlife Disease Study.

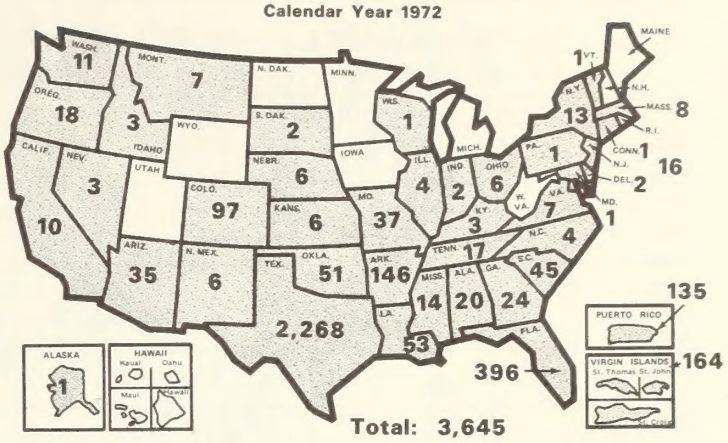
Final eradication plans were formulated in 1970, and supervisory personnel and equipment arrived on St. Croix in 1971. Construction of necessary facilities was completed in 1971. Dipping commenced on the eastern end of the island in January 1972. Unfortunately the dipping operation had to be suspended in March 1972 when it became apparent that efforts to control movement of livestock and green forage from other areas of the island were ineffective.

REPORT OF ALL TICKS COLLECTED
CALENDAR YEAR 1972

STATE	TOTAL	CATTLE	DOGS	HORSES and MULES	ZOO ANIMALS and MISC.	NATIVE WILDLIFE	ANIMALS OFFERED FOR ENTRY
TOTAL	3,645	2,223	194	620	140	201	267
Alabama	20	7	2		3	8	
Alaska	1		1				
Arizona	35	13		2	2	1	17
Arkansas	146	117	5		21	3	
California	10	4		1		1	4
Colorado	97	6	58	8	20	1	4
Connecticut	1		1				
Delaware	2	1			1		
Florida	396	131	7	233	3	18	4
Georgia	24	12	1		3	8	
Hawaii							
Idaho	3	2			1		
Illinois	4				4		
Indiana	2	2					
Iowa							
Kansas	6	3	1		2		
Kentucky	3		3				
Louisiana	53	7	2			43	1
Maine							
Maryland	1				1		
Massachusetts	8	1	7				
Michigan							
Minnesota							
Mississippi	14	8	4		1	1	
Missouri	37	24	6		6	1	
Montana	7		2	3	2		
Nebraska	6	5	1				
Nevada	3	1			1	1	
New Hampshire							
New Jersey	16		1	14		1	
New Mexico	6	5			1		
New York	13		1				12
North Carolina	4		3		1		
North Dakota							
Ohio	6		3	1	1	1	
Oklahoma	51	38	7	2	2	2	
Oregon	18	1	8		4	5	
Pennsylvania	1		1				
Rhode Island							
South Carolina	45	1				44	
South Dakota	2	1	1				
Tennessee	17	16	1				
Texas	2,268	1,697	53	237	26	30	225
Utah							
Vermont	1				1		
Virginia	7	1			2	4	
Washington	11	1	8		2		
West Virginia							
Wisconsin	1		1				
Wyoming							
Puerto Rico	135	90	4	33	8		
Virgin Islands	164	28	1	86	21	28	

TICK COLLECTIONS FROM ALL HOSTS

Calendar Year 1972



U.S. DEPARTMENT OF AGRICULTURE-VETERINARY SERVICES
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

REPORT OF TICKS COLLECTED

PERIOD: CALENDAR YEAR 1972 | HOST: NATIVE WILDLIFE

STATE	TOTAL	AMBLYOMMA AMERICANUM	AMBLYOMMA CAJENNENSE	AMBLYOMMA IMITATOR	AMBLYOMMA MACULATUM	AMBLYOMMA SPP.	ARGAS PERSICUS	BOOPHILUS ANNULATUS	BOOPHILUS MICROPLUS	BOOPHILUS SPP.	DERMACENTOR ALBIPICTUS	DERMACENTOR SPP. (NYMPHS & ADULTS VENUSTUS & BANKSI)	DERMACENTOR BIOCELLATUS	DERMACENTOR NITENS	DERMACENTOR OCCIDENTALIS	DERMACENTOR VARIABILIS	DERMACENTOR SPP.	HAEMAPHYSALIS LEPORISPALUSTRIS	IXODES COOKEI	IXODES PACIFICUS	IXODES SCAPULARIS	IXODES SPP.	ORNITHODOROS SPP.	OTOBIUS MEGNINI	RHIPICEPHALUS SANGUINEUS	RHIPICEPHALUS SPP.	MISCELLANEOUS SPP.
TOTAL	201	53	--	--	5	5	--	--	30	--	8	1	2	--	--	14	3	8	1	2	66	3	--	--	--	--	--
Alabama	8	1D																			7D						
Alaska																											
Arizona	1										1EK																
Arkansas	3	1W																			1W 1D						
California	1																			1F							
Colorado	1																					1WS[b]					
Connecticut																											
Delaware																											
Florida	18	1RC 4D			1D	1T[e]										2PO 5RC					3PO 1D						
Georgia	8	6D			1D													1R									
Hawaii																											
Idaho																											
Illinois																											
Indiana																											
Iowa																											
Kansas																											
Kentucky																											
Louisiana	43	4D																			39D						
Maine																											
Maryland																											
Massachusetts																											
Michigan																											
Minnesota																											
Mississippi	1																				1D						
Missouri	1																				1FS						
Montana																											
Nebraska																											
Nevada	1										1D																
New Hampshire																											
New Jersey	1												1D														
New Mexico																											
New York																											
North Carolina																											
North Dakota																											
Ohio	1																		1RC								
Oklahoma	2																				1D	1SK[i]					
Oregon	5										3D	1D								1D							
Pennsylvania																											
Rhode Island																											
South Carolina	44	32D			2D																10D						
South Dakota																											
Tennessee																											
Texas	30	1D			1D	1BC[n] 1A[n] 1BI 1D			2D		3D		1D			1BC 4CO 1FS 1BD	2D 1R	7R			1D							
Utah																											
Vermont																											
Virginia	4	3D																				1BI[k]					
Washington																											
West Virginia																											
Wisconsin																											
Wyoming																											
Puerto Rico																											
Virgin Islands	28								28D																		

Key to Host

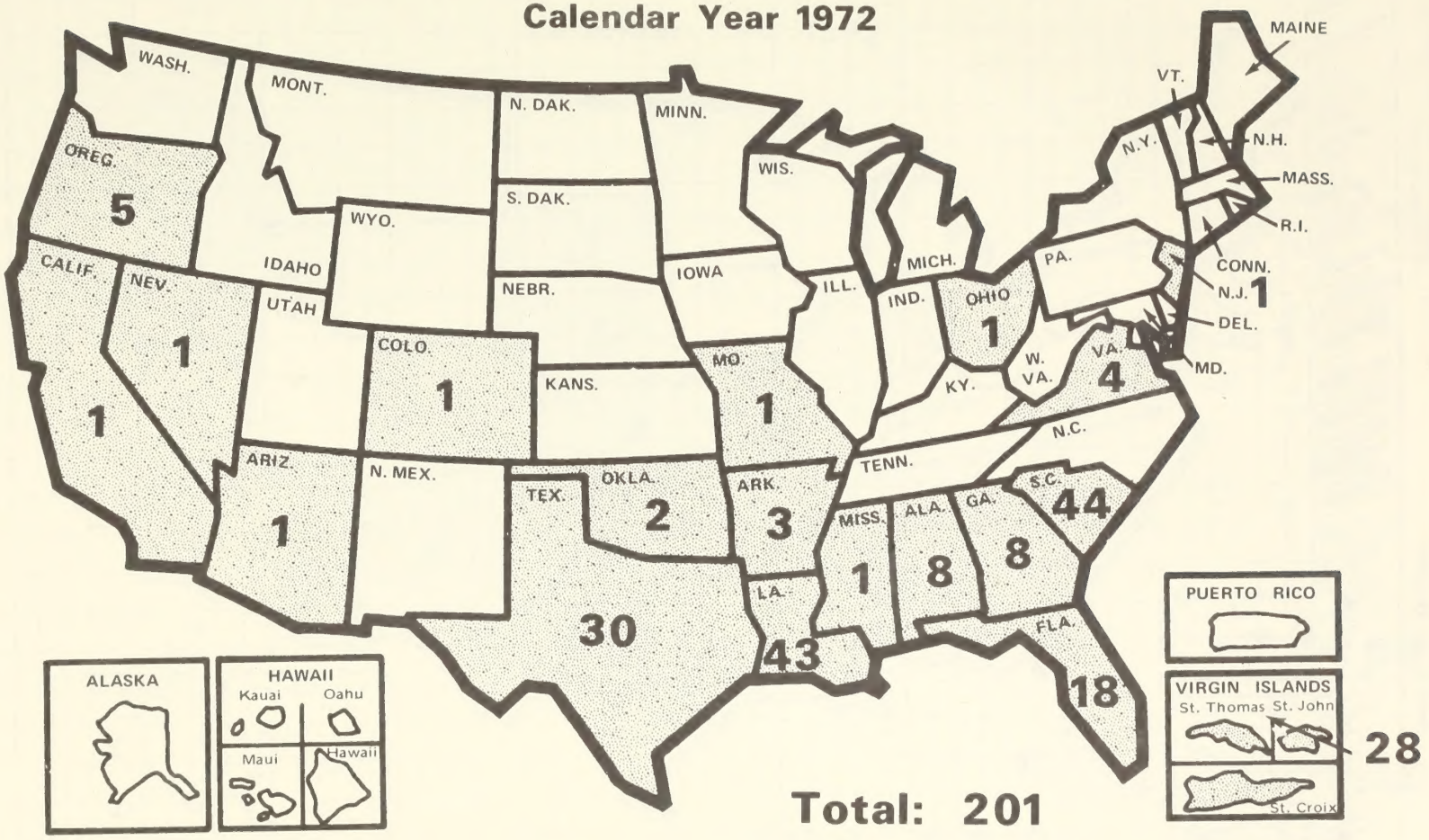
A	Armadillo	FS	Fox squirrel
BC	Bobcat	PO	Opossum
BD	Badger	R	Rabbit
BI	Bird	RC	Raccoon
CO	Coyote	SK	Skunk
D	Deer	T	Tortoise
EK	Elk	W	Wolf
F	Fox	WS	Weasel

Key to Species

b Ixodes sculptus
e Amblyomma tuberculatum
i Ixodes banksi
k Ixodes brunneus
n Amblyomma inornatum

TICK COLLECTIONS FROM NATIVE WILDLIFE

Calendar Year 1972



U.S. DEPARTMENT OF AGRICULTURE-VETERINARY SERVICES

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

REPORT OF TICKS COLLECTED

PERIOD: CALENDAR YEAR 1972 | HOST: CATTLE

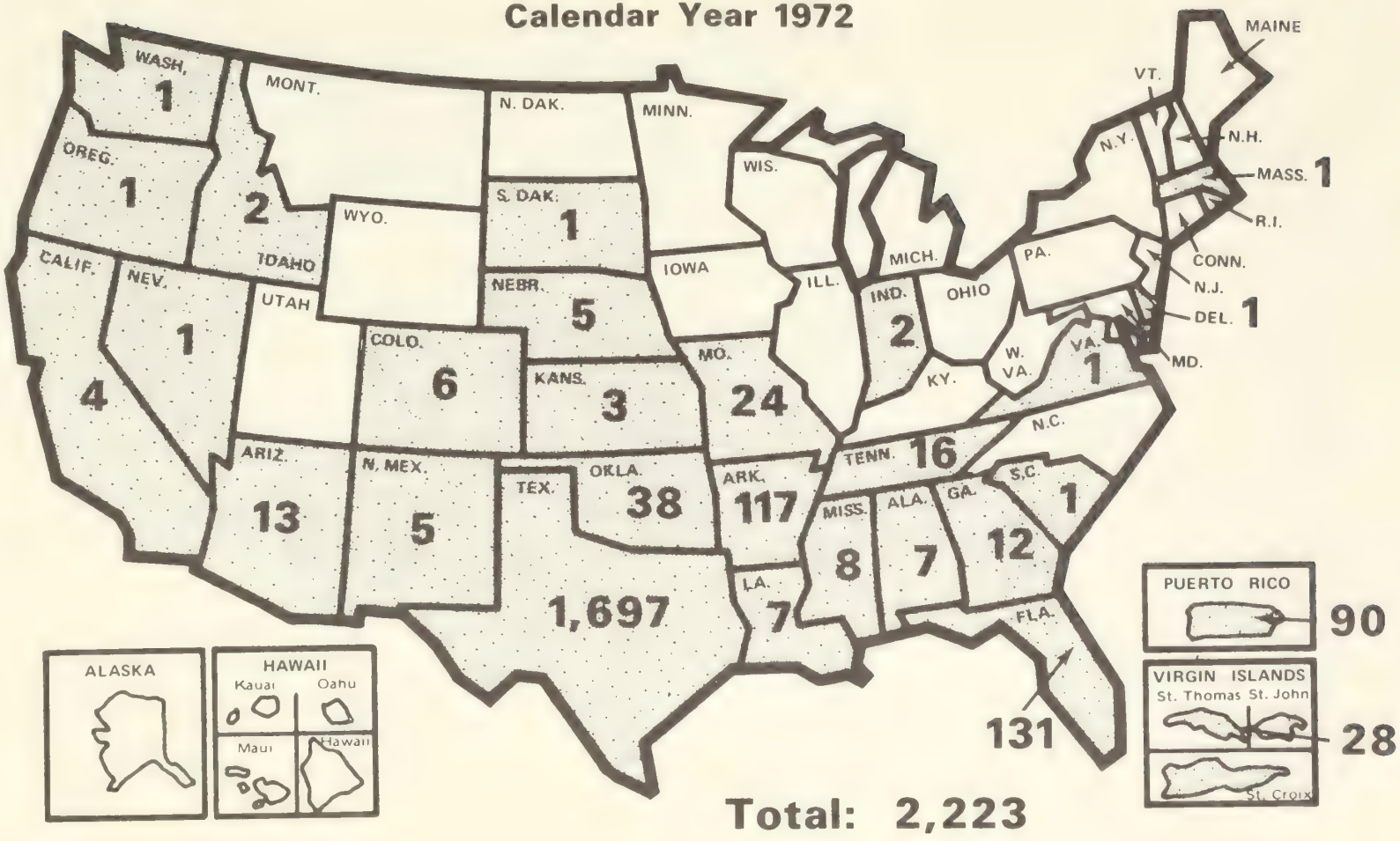
STATE	TOTAL	AMBLYOMMA AMERICANUM	AMBLYOMMA CAJENNENSE	AMBLYOMMA IMITATOR	AMBLYOMMA MACULATUM	AMBLYOMMA SPP.	ARGAS PERSICUS	BOOPHILUS ANNULATUS	BOOPHILUS MICROPLUS	BOOPHILUS SPP.	DERMACENTOR ALBIPICTUS	DERMACENTOR SIGNATUS (=D. VARIABILIS & PARKERI)	DERMACENTOR NITENS (=D. NIGROLINEATUS)	DERMACENTOR RITTERI	DERMACENTOR OCCIDENTALIS	DERMACENTOR VARIABILIS	DERMACENTOR SPP.	HAEMAPHYSALIS LEPORISPALUSTRIS	IXODES COOKEI	IXODES PACIFICUS	IXODES SCAPULARIS	IXODES SPP.	ORNITHODORUS SPP.	OTOBIUS MEGNINI	RHIPICEPHALUS SANGUINEUS	RHIPICEPHALUS SPP.	MISCELLANEOUS SPP.
TOTAL	2,223	411	312	8	458	119	--	25	176	10	60	2	18	95	1	428	2	--	--	--	60	--	--	38	--	--	--
Alabama	7				3											2					2						
Alaska																											
Arizona	13										9		1											3			
Arkansas	117	106														9					2						
California	4	1							1						1	1											
Colorado	6										1	1												4			
Connecticut																											
Delaware	1															1											
Florida	131	9	1		89											8					24						
Georgia	12	8			1											2					1						
Hawaii																											
Idaho	2										2																
Illinois																											
Indiana	2	1														1											
Iowa																											
Kansas	3				1											1								1			
Kentucky																											
Louisiana	7	2			1																4						
Maine																											
Maryland																											
Massachusetts	1															1											
Michigan																											
Minnesota																											
Mississippi	8	3			2											3											
Missouri	24	19														3					1			1			
Montana																											
Nebraska	5	4									1																
Nevada	1										1																
New Hampshire																											
New Jersey																											
New Mexico	5	1									3					1											
New York																											
North Carolina																											
North Dakota																											
Ohio																											
Oklahoma	38	20			2						1					5					3			7			
Oregon	1																							1			
Pennsylvania																											
Rhode Island																											
South Carolina	1				1																						
South Dakota	1											1															
Tennessee	16	8														6					1			1			
Texas	1,697	229	311	8	358	53[n] 66		25	152	10	41		17			384	2				22			19			
Utah																											
Vermont																											
Virginia	1										1																
Washington	1																							1			
West Virginia																											
Wisconsin																											
Wyoming																											
Puerto Rico	90													90													
Virgin Islands	28								23					5													

Key to Species

n Amblyomma inornatum

TICKS COLLECTED FROM CATTLE

Calendar Year 1972



Total: 2,223

U.S. DEPARTMENT OF AGRICULTURE-VETERINARY SERVICES

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

REPORT OF TICKS COLLECTED

PERIOD: CALENDAR YEAR 1972

HOST: ZOO ANIMALS and MISCELLANEOUS HOST (Human, Sheep, etc.)

STATE	TOTAL	AMBLYOMMA AMERICANUM	AMBLYOMMA AUREOLATUM	AMBLYOMMA TESTUDINIS	AMBLYOMMA VARIEGATUM	AMBLYOMMA SPP.	ARGAS PERSICUS	BOOPHILUS ANNULATUS	BOOPHILUS MICROPLUS	DERMACENTOR ALBIPICTUS	DERMACENTOR ANDERSONI	DERMACENTOR VARIABILIS	DERMACENTOR NITENS	DERMACENTOR SPP.	HAEMAPHYSALIS LEPORISPALUSTRIS	IXODES COOKEI	IXODES PACIFICUS	IXODES SCAPULARIS	IXODES SPP.	OTHER SPECIES	OTOBIUS MEGNINI	RHIPICEPHALUS SANGUINEUS	RHIPICEPHALUS SPP.	MISCELLANEOUS
TOTAL	140	31	1	--	4	19	--	--	5	--	1	16	--	18	--	18	--	--	--	1	3	--	1	10	5	3	4
Alabama	3					1										1H 1Q					1C						
Alaska																											
Arizona	2																							1Q			1CH[a]
Arkansas	21	16Q 3Y			1H																1Q						
California																											
Colorado	20											1SF 1T												4Q	2X	17S[c]	
Connecticut																											
Delaware	1																								1X		
Florida	3	1H														1RT				1B							
Georgia	3					1BA[f]										2Y											
Hawaii																											
Idaho	1					1BA[f]																					
Illinois	4					1TT[g]					1															3ES	1ES[h]
Indiana																1											
Iowa																											
Kansas	2															1Y								1Y			
Kentucky																					1						
Louisiana																											
Maine																											
Maryland	1															1Y											
Massachusetts																											
Michigan																											
Minnesota																											
Mississippi	1															1C											
Missouri	[illegible]	5H														1H											
Montana	2											2															
Nebraska																											
Nevada	1																							1H			
New Hampshire																											
New Jersey																											
New Mexico	1					1BA[f]																					
New York																											
North Carolina	1															1C											
North Dakota																											
Ohio	1															1											
Oklahoma	2					1BA										1H											
Oregon	4					1[illegible][f] 1[illegible][j]																			1C			
Pennsylvania																											
Rhode Island																											
South Carolina																											
South Dakota																											
Tennessee																											
Texas	28	3C 1Y 1H 1Q			2Y 1H	1G 4H			1Y		1Y					1X 1[illegible]	1	1	1		1Y			1X	1X		1XP 1CH[o]
Utah																											
Vermont	1															1C											
Virginia	2	1X				1SO[f]																					
Washington	2											1H												1C			
West Virginia																											
Wisconsin																											
Wyoming																											
Puerto Rico	8													7%											1H		
Virgin Islands	21					2S[m] 2O[m] 2O[m]			3G 1S					1O 1S 2X 7G													

Key to Host

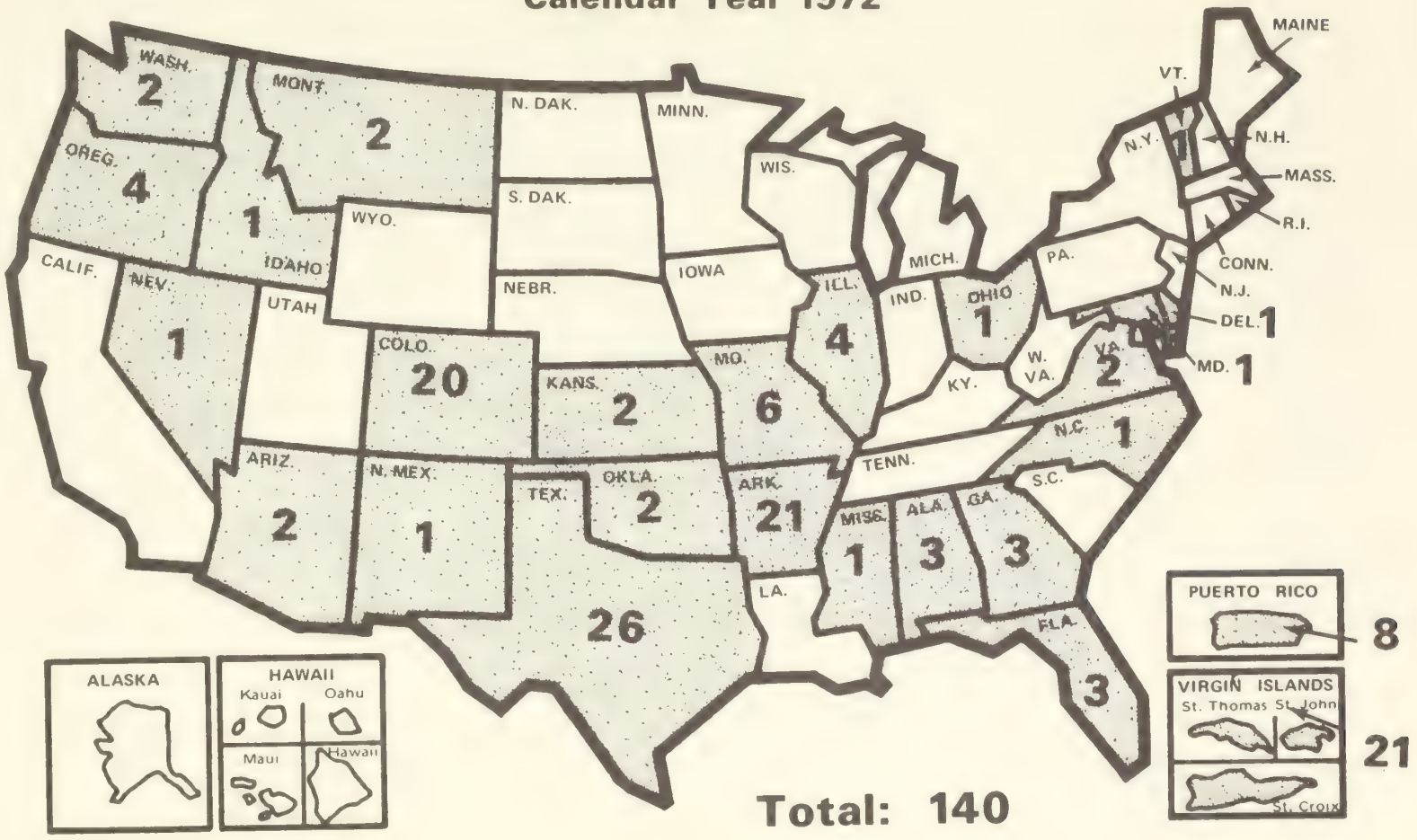
B	Bat	Q	Host not given
BA	Boa constrictor	RT	Rat
C	Cat	S	Sheep
CH	Chicken	TT	Two-toed sloth
ES	Elephant schrew	X	Inanimate object
G	Goat	Y	Swine
H	Human	ZS	Zebra skin
IG	Iguana		

Key to Species

a Argas sanchezi
c Rhipicephalus pulchellus
f Amblyomma dissimile
g Amblyomma varium
h Haemaphysalis sp.
j Amblyomma testudinis
m Amblyomma variegatum
o Argas sp.
p Argas radiatus

TICKS COLLECTED FROM ZOO ANIMALS AND MISCELLANEOUS HOSTS

Calendar Year 1972



REPORT OF TICKS COLLECTED

PERIOD: CALENDAR YEAR 1972 | HOST: DOGS

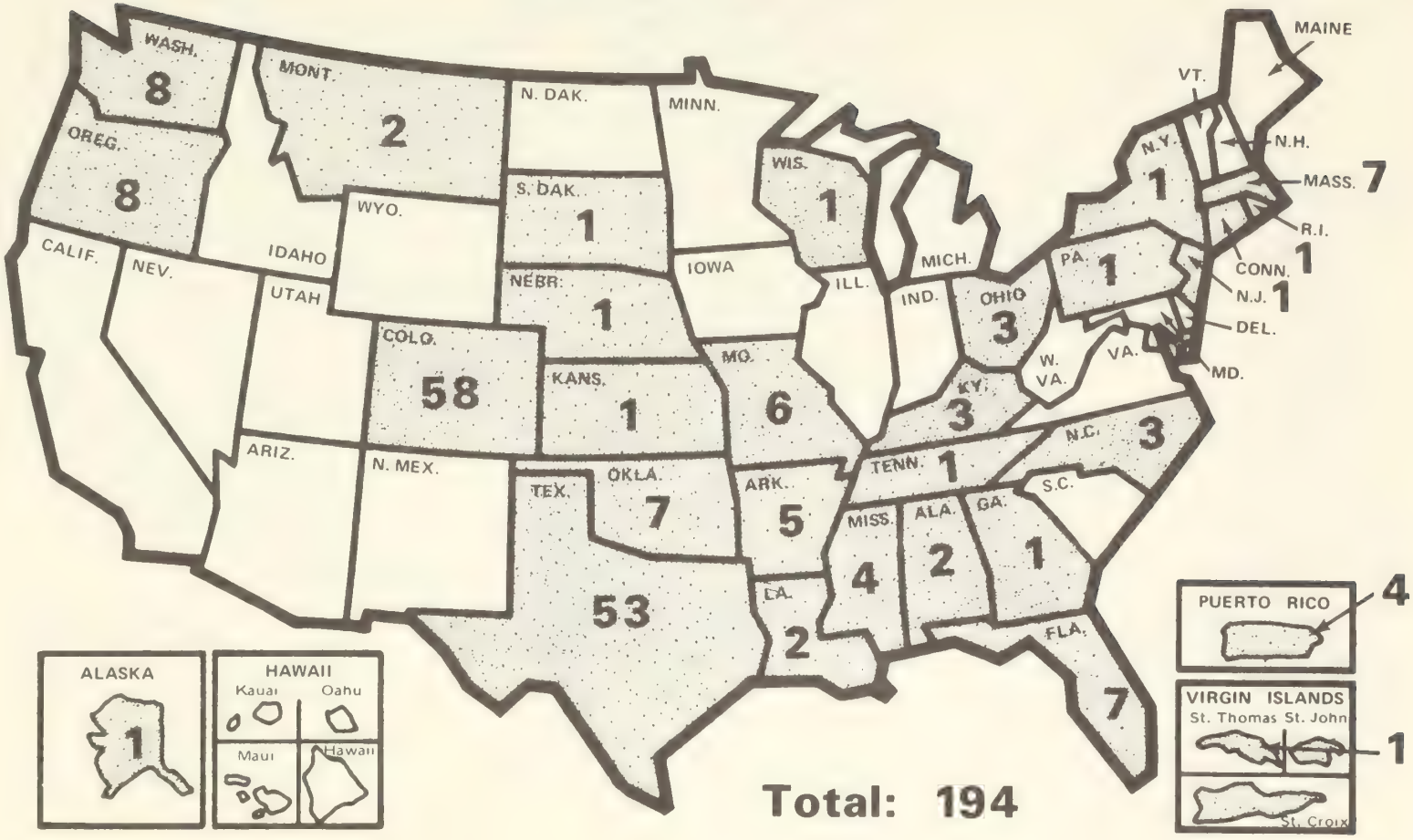
STATE	TOTAL	AMBLYOMMA AMERICANUM	AMBLYOMMA CAJENNENSE	AMBLYOMMA INYATOR	AMBLYOMMA MACULATUM	AMBLYOMMA SPP	ARGAS PERSICUS	BOOPHILUS ANNULATUS	BOOPHILUS MICROPLUS	BOOPHILUS SPP	DERMACENTOR ALBIPICTUS	DERMACENTOR ANDERSONI, D. VARIABILIS (BANKS)	DERMACENTOR NITENS	DERMACENTOR OCCIDENTALIS	DERMACENTOR VARIABILIS	DERMACENTOR SPP	HAEMAPHYSALIS LEPORISPALUSTRIS	IXODES CookEI	IXODES PACIFICUS	IXODES SCAPULARIS	IXODES SPP	ORNITHODOROS SPP	OTOBIUS MEGNINI	RHIPICEPHALUS SANGUINEUS	RHIPICEPHALUS SPP	MISCELLANEOUS SPP.
TOTAL	194	13	1	--	6	2	--	--	--	--	--	13	--	1	--	62	--	--	1	5	7	5	--	13	65	--	--
Alabama	2															1									1		
Alaska	1																								1		
Arizona																											
Arkansas	5	1														1					1				2		
California																											
Colorado	58	2										10				9			1			1[b] 2[d]		9	24		
Connecticut	1																								1		
Delaware																											
Florida	7				1											2					2				2		
Georgia	1															1											
Hawaii																											
Idaho																											
Illinois																											
Indiana																											
Iowa																											
Kansas	1															1											
Kentucky	3															3											
Louisiana	2																								2		
Maine																											
Maryland																											
Massachusetts	7															7											
Michigan																											
Minnesota																											
Mississippi	4				1											1								1	2		
Missouri	6	5														1											
Montana	2															1						1[d]					
Nebraska	1															1											
Nevada																											
New Hampshire																											
New Jersey	1															1											
New Mexico																											
New York	1																								1		
North Carolina	3															3											
North Dakota																											
Ohio	3															3											
Oklahoma	7				1											5									1		
Oregon	8											2				1				4					1		
Pennsylvania	1																								1		
Rhode Island																											
South Carolina																											
South Dakota	1							1								1											
Tennessee	1																								1		
Texas	53	5	1		3	2										18					4				20		
Utah																											
Vermont																											
Virginia																											
Washington	8											1				1				1		1		4			
West Virginia																											
Wisconsin	1																								1		
Wyoming																											
Puerto Rico	4													1											3		
Virgin Islands	1																								1		

Key to Species

b Ixodes sculptus
d Ixodes kingi

TICKS COLLECTED FROM DOGS

Calendar Year 1972



REPORT OF TICKS COLLECTED

PERIOD: CALENDAR YEAR 1972 | HOST: HORSES and MULES

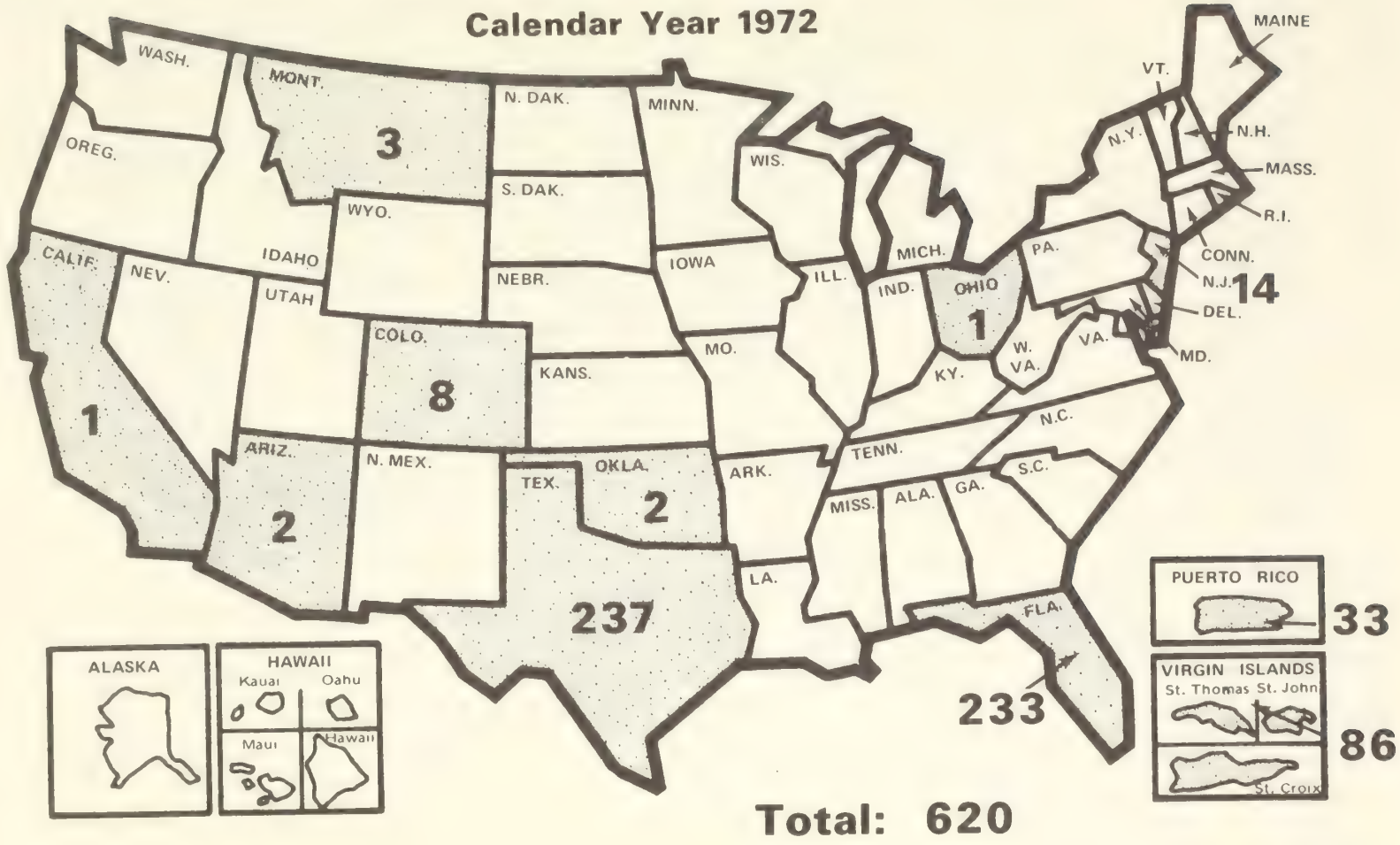
STATE	TOTAL	AMBLYOMMA AMERICANUM	AMBLYOMMA CAJENNENSE	AMBLYOMMA IMITATOR	AMBLYOMMA MACULATUM	AMBLYOMMA SPP.	ARGAS PERSICUS	BOOPHILUS ANNULATUS	BOOPHILUS MICROPLUS	BOOPHILUS SPP.	DERMACENTOR ALBIPICTUS	DERMACENTOR ATTEMPTOR (ANDERSONI)	DERMACENTOR NITENS (VARIABILIS)	DERMACENTOR NUTTALLIANUS	DERMACENTOR OCCIDENTALIS	DERMACENTOR VARIABILIS	DERMACENTOR SPP.	HAEMAPHYSALIS LEPORISPALUSTRIS	IXODES CONEXUS	IXODES PACIFICUS	IXODES SCAPULARIS	IXODES SPP.	OMITHODOROS SPP.	OTOBIUS MEGNINI	RHIPICEPHALUS SANGUINEUS	RHIPICEPHALUS SPP.	MISCELLANEOUS SPP.
TOTAL	620	11	13	2	73	6	--	6	3	--	17	7	6	211	--	204	2	--	--	--	50	--	--	8	1	--	--
Alabama																											
Alaska																											
Arizona	2	1											1														
Arkansas																											
California	1																							1			
Colorado	8										1	4												3			
Connecticut																											
Delaware																											
Florida	233	2			51						3		1	79		99					50			3			
Georgia																											
Hawaii																											
Idaho																											
Illinois																											
Indiana																											
Iowa																											
Kansas																											
Kentucky																											
Louisiana																											
Maine																											
Maryland																											
Massachusetts																											
Michigan																											
Minnesota																											
Mississippi																											
Missouri																											
Montana	3											3															
Nebraska																											
Nevada																											
New Hampshire																											
New Jersey	14				1											13											
New Mexico																											
New York																											
North Carolina																											
North Dakota																											
Ohio	1															1											
Oklahoma	2	1											1														
Oregon																											
Pennsylvania																											
Rhode Island																											
South Carolina																											
South Dakota																											
Tennessee																											
Texas	237	7	13	2	21	2[n] 4		6	2		13		3	14		146	2							1	1		
Utah																											
Vermont																											
Virginia																											
Washington																											
West Virginia																											
Wisconsin																											
Wyoming																											
Puerto Rico	33													33													
Virgin Islands	86								1					85													

Key to Species

n Amblyomma inornatum

TICKS COLLECTED FROM HORSES AND MULES

Calendar Year 1972



Total: 620

REPORT OF TICKS COLLECTED

PERIOD: CALENDAR YEAR 1972

TICKS FOUND ON ANIMALS OFFERED FOR ENTRY INTO THE UNITED STATES

STATE	TOTAL	AMBLYOMMA AMERICANUM	AMBLYOMMA CAJENNENSE	AMBLYOMMA INCISUM	AMBLYOMMA MACULATUM	AMBLYOMMA SPP.	ARGAS RADIATUS	BOOPHILUS ANNULATUS	BOOPHILUS MICROPLUS	BOOPHILUS SPP.	DERMACENTOR ALBIPICTUS	DERMACENTOR ANDERSONI	DERMACENTOR NITENS	DERMACENTOR OCCIDENTALIS	DERMACENTOR VARIABILIS	DERMACENTOR SPP.	HAEMAPHYSALIS LEPORISPALUSTRIS	HAEMAPHYSALIS SPP.	IXODES CILIATUS	IXODES PACIFICUS	IXODES SCAPULARIS	IXODES SPP.	UNIDENTIFIED SPP.	OTHERS	MINUTE EPIZOA SANGUINOLUS	RHIPICEPHALUS SPP.	MISCELLANEOUS
TOTAL	267	--	3	1	7	2	--	29	39	46	83	--	4	2	--	8	18	--	--	--	2	--	--	6	3	13	1
ARIZONA																											
Douglas	5										5BO																
Nogales	6										4BO						2BH[x]										
Phoenix	1					1AT[g]																					
Tucson	5																5BH[x]										
CALIFORNIA																											
Calexico	1																							1E			
San Diego	3																				1BO			2BO			
COLORADO																											
Denver	4									1AT[t]																1AT[g] 1AR[r] 1AR[s]	
FLORIDA																											
Miami	4		1E						1E					2E													
LOUISIANA																											
New Orleans	1		1X																								
NEW YORK																											
New York***	12					1AE[u]																		1BO		3ZC 1ZV 5ZF 1ZM	
TEXAS																											
Brownsville	33		1X	1BO	7BO				1BO	7BO						6BO								1EA			
Del Rio	16							3BO	2BO		10BO						1BO										
Eagle Pass	4							1ZO	1BO	1BO	1BO										1BO						
El Paso	50										37BO		4BO				6BO							1BO 1E	1BO		
Laredo	57							7BO 2D	22BO	22BO						2BO								1BO			1Y[p]
Presidio	25										21BO						1BO[c]										

Key to Host

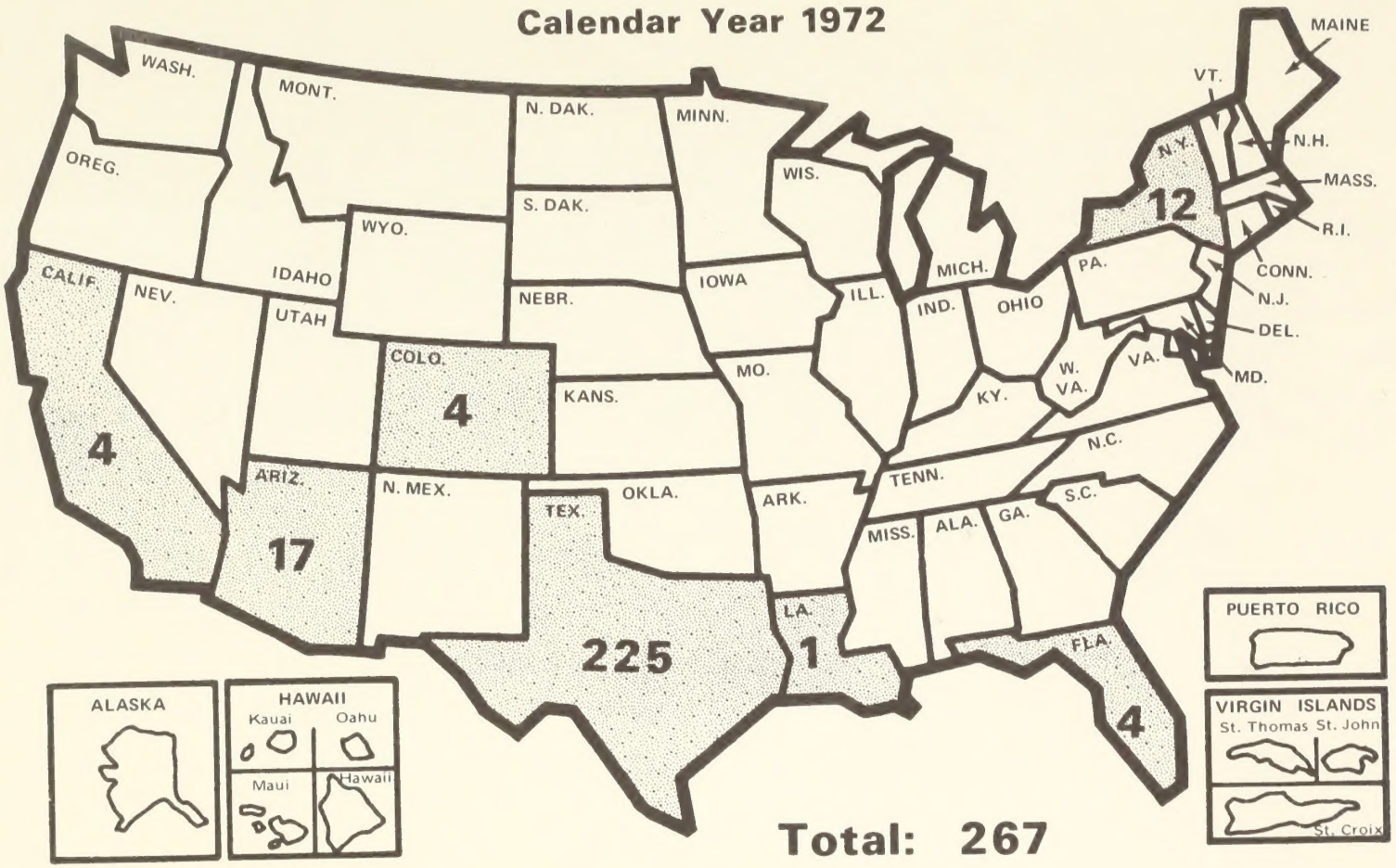
AE Anteater
AT Animal trophies
BH Bighorn sheep
BO Bovine
CA Canine
D Deer
E Equine
HH Hedgehog
X Inanimate object
Z Zebra

Key to Species

c Rhipicephalus pulchellus
p Argas radiatus
q Amblyomma splendidum
r Rhipicephalus evertsi
s Rhipicephalus appendiculatus
t Boophilus decoloratus
u Amblyomma pictum
v Rhipicephalus evertsi mimeticus
w Hyalomma rufipes
x Dermacentor hunteri
y Dermacentor parumapertus

***Includes quarantine station at Clifton, N. J.

TICKS COLLECTED FROM ANIMALS OFFERED FOR IMPORTATION



U.S. DEPARTMENT OF AGRICULTURE-VETERINARY SERVICES

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

Official Business
Penalty for Private Use, $300

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